

## CLAIMS

What is claimed is:

1. A valuation system for determining the monetary value of coins included in a plurality of stacks of coins arranged for dispensing from an automatic coin dispensing machine, the valuation system comprising:

a sensor arranged to determine the height of the stack of coins in each of the plurality of stacks of coins;

a microprocessor in communication with the sensor, the microprocessor adapted to determine the monetary value of coins in each of the plurality of stacks of coins by

- (A) determining the type of coin in each of the plurality of stacks of coins;
- (B) determining the number of coins in each of the plurality of stacks of coins by dividing the determined height by a known coin height for the determined type of coin in each of the stacks of coins;
- (C) determining a monetary value of the coins in each of the plurality of stacks of coins by multiplying the determined number of coins by a known coin value for the determined type of coin in each of the plurality of stacks of coins; and
- (D) determining an overall monetary value for the coins in the plurality of stacks of coins by summing the determined monetary value for each of the plurality of stacks of coins; and

a display in communication with the microprocessor for visually displaying the overall monetary value of the plurality of stacks of coin.

2. The valuation system of claim 1, wherein the display is attached to the automatic coin dispensing machine.

3. The valuation system of claim 1 wherein the sensor is a single, stationary sensor and the plurality of stacks of coins rotate past the single sensor.

4. The valuation system of claim 1, further comprising an activation button disposed on the automatic coin dispensing machine for manually activating the sensor and

the microprocessor to determine the overall monetary value of the plurality of stacks of coins.

5. The valuation system of claim 1 wherein the sensor is an ultrasonic sensor.

6. The valuation system of claim 5 wherein the display visually displays the determined monetary value of the stack of coins only after manual activation of the activation button.

7. A method of determining the monetary value of coins in a plurality of stacks of coins arranged for dispensing from an automatic coin dispensing machine, the method comprising the steps of:

- positioning at least one sensor to determine the height of the stack of coins
- 5 in each of the plurality of stacks of coins;
- determining the type of coins in each of the plurality of stacks of coins;
- determining the number of coins in each of the plurality of stacks of coins by dividing the determined height for each of the stacks of coins by a known coin height for the determined type of coin in each of the plurality of stacks;
- 10 determining the monetary value of the coins in each of the plurality of stacks of coins by multiplying the determined number of coins by a known coin value for the determined type of coin in each of the plurality of stacks of coins;
- determining an overall monetary value for the coins in the plurality of stacks of coins by summing the determined monetary value of the coins in each of the
- 15 plurality of stacks of coins; and
- displaying the overall monetary value for the coins in the plurality of stacks of coins.

8. The method of claim 7 wherein the sensor is a single, stationary sensor and the plurality of stacks of coins are moved past the sensor such that the sensor can determine the height of the stacks of coins in each of the plurality of stacks of coins.

9. The method of claim 8 wherein the sensor determines the height of the stack of coins in each of the plurality of stacks of coins upon manual depression of an activation button.

10. A valuation system for determining the number and monetary value of a stack of coins arranged for dispensing from an automatic coin dispensing machine, the valuation system comprising:

an ultrasonic sensor arranged to emit an ultrasonic pulse onto a top coin in the stack of coins and to receive the pulse after it reflects from the top coin;

a microprocessor in communication with the ultrasonic sensor, the microprocessor adapted to determine the number and value of coins in the stack of coins by

- (A) determining the height of the stack of coins;
- (B) determining the type of coin in the stack of coins;
- (C) determining the number of coins in the stack of coins by dividing the determined height of the stack of coins by a known coin height; and
- (D) determining the value of the stack of coins by multiplying the number of coins in the stack of coins by a known coin value.

11. The valuation system of claim 10, further comprising:

a display in communication with the microprocessor, the display for displaying the determined value for the stack of coins.

12. The valuation system of claim 11, wherein the display is attached to the automatic coin dispensing machine.

13. The value system of claim 10, further comprising:

a printing device in communication with the microprocessor, the printing device for printing the value of the stack of coins.

14. The valuation system of claim 10, wherein the ultrasonic sensor is mounted to an interior portion of a cover on the automatic coin dispensing machine.

15. The valuation system of claim 10, further comprising a button disposed on the automatic coin dispensing machine for manually-activating the ultrasonic sensor and microprocessor.

16. The valuation system of claim 10, wherein the microprocessor determines the number and value of coins in the stack of coins upon initiation by a user.

17. The valuation system of claim 10, wherein the ultrasonic sensor is mounted in an automatic coin dispensing machine of the type having a revolving carousel for holding a plurality of stacks of coins.

18. The valuation system of claim 17, wherein the microprocessor is adapted to determine the total value of coins in the plurality of stacks of coins in the revolving carousel by determining values for each of the plurality of stacks of coins and summing the determined values for each of the plurality of stacks of coins.

19. The valuation system of claim 10, wherein the ultrasonic sensor is mounted in an automatic coin dispensing machine of the type having a panel tray for holding a plurality of aligned stacks of coins.

20. The valuation system of claim 19, further comprising a plurality of ultrasonic sensors, one for each stack of coins.

21. The valuation system of claim 20, wherein the microprocessor is adapted to determine the total value of coins in the plurality of aligned stacks of coins in the panel tray by determining values of each of the plurality of aligned stacks of coins and summing the determined values for each of the plurality of aligned stacks of coins.

22. The valuation system of claim 17, wherein the microprocessor receives logic provided from automatic coin dispensing machine, wherein the logic is the known coin value of each stack of coins in the plurality of stacks of coins.

23. A method of determining the number and value of coins in at least one stack of coins arranged for dispensing from an automatic coin dispensing machine, the method comprising the steps of:

attaching an ultrasonic sensor to the automatic coin dispensing machine;

5 emitting an ultrasonic pulse from the ultrasonic sensor onto a top coin in the stack of coins;

determining the height of the stack of coins based on the receipt of the ultrasonic pulse by the ultrasonic sensor;

10 determine the type of coins in the stack of coins, each type of coin having a coin height;

determining the number of coins in the stack of coins by dividing the determined height of the stack of coins by the known coin height; and

determining the value of the stack of coins by multiplying the determined number of coins in the stack of coins by a known coin value.

24. The method of claim 23, further comprising the step of:  
displaying the determined value on a display.

25. The method of claim 23 further comprising the step of:  
printing the determined value.

26. The method of claim 23 wherein the automatic coin dispensing machine has a plurality of stacks of coins.

27. The method of claim 26 wherein the steps of the method are repeated for each stack of coins in the plurality of stacks of coins.

28. The method of claim 27, further comprising the step of:  
determining the total value of coins in the plurality of stacks of coins by summing determined values for each of the plurality of aligned stacks of coins.